



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,923	11/21/2003	Feng-wei Chen Russell	RSW920030185US1	2402
23550 7590 02/23/2007 HOFFMAN WARNICK & D'ALESSANDRO, LLC 75 STATE STREET 14TH FLOOR ALBANY, NY 12207			EXAMINER BELL, CORY C	
			ART UNIT	PAPER NUMBER
			2164	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/718,923

Applicant(s)

RUSSELL ET AL.

Examiner

Cory C. Bell

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
**SAM RIMELL**  
PRIMARY EXAMINER

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-13 have been examined.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-13 are rejected under 35 USC 101 for the following reasons:

- 2.1. Claims 1-13 are directed to calculating a performance value.

- 2.1.1. This claims subject matter lacks a practical application of a judicial exception (law of nature, abstract idea, naturally occurring article/phenomenon) since it fails to produce a useful, concrete and tangible result.

- 2.1.2. Specifically, the claimed subject matter does not produce a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter provides for the calculation of a performance value. The produced result remains in the abstract and, thus, fails to achieve the required status of having real world value.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 2164

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8 and 11-13 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by US 2003/0212678, known hereafter as Bloom.

3.1. Claim 1 is anticipated as follows:

obtaining a set of goals for the data mining algorithm;(Para 15)

assigning a weight to each goal in the set of goals; (Para 15)

applying the data mining algorithm to a dataset; (Para 15, the number of correct positive can only be determined after applying the data mining algorithm to the dataset)

and calculating a performance value for the data mining algorithm based on the set of weights and a set of results for the applying step. (Para 15 FOM)

3.2. Claim 2 is anticipated as follows:

identifying a set of error cases for each goal in the set of goals; (Para 15, positive and negative relative accuracies)

and assigning a weight to each error case in the set of error cases. (Figure 15 shows that the each error case has a different weighting factor assigned, the positive relative accuracy weight being  $W/(W+1)$  and the negative relative accuracy weight being  $1/(W+1)$ )

3.3. Claim 3 is anticipated as follows:

obtaining an acceptability for an error case; and calculating the weight based on the acceptability. (Para 16, cost is an acceptability using the broadest reasonable interpretation)

3.4. Claim 4 is anticipated as follows:

determining an error rate for each error case based on the set of results; (Para 15 the relative accuracies are error rates using the broadest reasonable interpretation) and calculating an error vector for each error case based on the error rate and error weight for the error case.(Para 15 and para 95 FOM equation shows the calculation of both error vectors, it is also noted that the examiner believes that the prior art contains a typographical error and that  $(\text{number\_of\_correct\_positives})/(\text{number\_of\_actual\_negatives})$  should be  $(\text{number\_of\_correct\_negatives})/(\text{number\_of\_actual\_negatives})$ )

3.5. Claim 5 is anticipated as follows:

the calculating step further includes summing the error vectors for the set of error cases to obtain the performance value. (Para 15 FOM)

3.6. Claim 6 is anticipated as follows:

6. The method of claim 1, further comprising comparing the performance value to an acceptable performance value. (Para 105 shows comparing all of the performance values, one of which is the acceptable or best performance value)

3.7. Claim 7 is anticipated as follows:

7. A method of evaluating a set of data mining algorithms, the method comprising:  
selecting the set of data mining algorithms; (Paras 7 or 9) obtaining a set of goals for the  
set of data mining algorithms; assigning a weight to each goal in the set of goals;  
applying each data mining algorithm to a dataset; and calculating a performance value  
for each data mining algorithm based on the set of weights and a set of results for the  
applying step. (See Claim 1 rejection)

3.8. Claim 8 is anticipated as follows:

8. The method of claim 7, wherein the selecting step is based on the set of goals. (Para 8)

3.9. Claim 11 is anticipated as follows:

11. The method of claim 7, wherein the assigning step includes: identifying a set of error  
cases for each goal; and assigning a weight to each error case in the set of error cases.  
(See claim 2 rejection)

3.10. Claim 12 is anticipated as follows:

12. The method of claim 7, wherein the set of data mining algorithms includes at least one  
data mining algorithm having a first set of parameter values and the at least one data mining  
algorithm having a second set of parameter values. (Para 6)

3.11. Claim 13 is anticipated as follows:

13. The method of claim 7, further comprising: selecting a data mining algorithm in the set of data mining algorithms; and generating a data mining model based on the selected data mining algorithm. (Para 6)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom in view of the admitted prior art.

4.1. Bloom teaches the claim upon which claim 9 is dependant, as well as a plurality of business problems and taxonomies in figure 4. The applicant admits that it was known in the art at the time of the invention to select data mining algorithms based on the selection of problems in para 5 of applicants specification. Yet neither teaches these problems being further grouped into taxonomies. However, this feature would have been well known at the time of the invention as taxonomies provide the advantage of grouping like elements in order to ease in the location of desired information, in this case the desired problem and its associated data mining algorithms.

Art Unit: 2164

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom in view of US 2004/0068476, known hereafter as Provost.

Bloom teaches the claim upon which claim 10 is dependant, but fails to expressly disclose, ranking the set of data mining algorithms based on the performance values. This is taught in para 23 of Provost. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to include this feature as it allows the user to quickly ascertain the quality of several data mining algorithms.

#### ***Response to Arguments***

Applicant's arguments with respect to the restriction have been fully considered and are not persuasive, as the examination of both groups would have required further search and consideration and would have thus been burdensome to the examiner.

#### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cory C. Bell whose telephone number is (571) 272 2736. The examiner can normally be reached on m-f 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272 4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2164

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
SAM RIMELL  
PRIMARY EXAMINER